KeySpan Corporation
175 East Old Country Road
Hicksville, New York 11801-4280

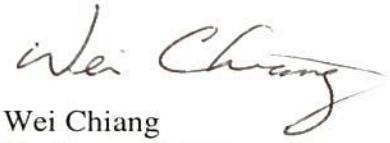
March 21, 2005

Winston Lue
Chemical Engineer, National Program Chemical Division
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Dear Mr. Lue:

As requested, please find attached the specific secondary containment information in support of KeySpan's gas piping storage container request.

Very truly yours,



Wei Chiang
Environmental Operations
Phone: 516-545-4368
Fax: 516-545-2484
wchiang@keyspanenergy.com

cc: Mr. Martin Bruscella (w/attach)

KeySpan's Pipe Soaking Container Generic Secondary Containment Specification

All storage containers will be provided with secondary containment during soaking operations. Spill containment will be provided by reinforced Geomembranes equipped with a stake wall A frame or similar wall support. A spill containment system such as the Ready Berm supplied by Interstate Products, Inc. or similar system, having comparable specifications will be utilized. These containment systems are ideal for the soaking process due to the ability to deploy containment during the short duration soaking cycle. The walls can be collapsed when containment is not required.

Typical construction of the containment material is a 20-30 mil thick ethylene copolymer, such as the XR-5 reinforced geomembrane, which is resistant to the liquid materials to be contained in the event of a spill. Attached is literature for the Interstate Products, Inc. spill containment systems showing typical specifications and chemical resistance of the XR-5 membrane material. The intended pipe soaking solution, Enviro-Clean, is a ten percent terpene hydrocarbon solution. Terpene hydrocarbons are derivatives of turpentine. The XR-5 Chemical Resistance Guide provided, shows this membrane material to be "A" rated in resistant to turpentine and additionally "A" rated resistant to fuels and oils.

Spill Containment Berms

Interstate Products, Inc

"Quality Environmental Solutions"

1-800-474-7294

Collapsible Wall Spill Berm Model

Flex Wall Spill Berm

Pillow Tanks

Berm Gallery

After Hours
1-800-472-3392

Send Us An E-Mail

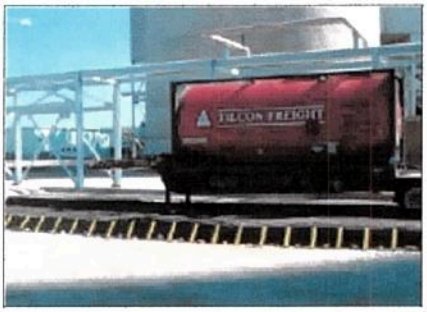
550 and 275 gallon Oval Containment above

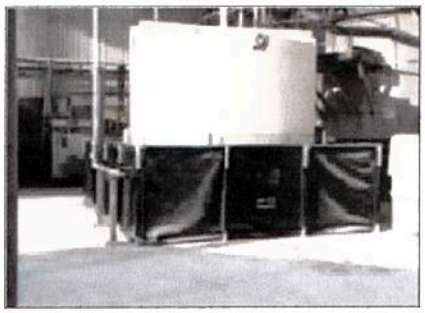
Drive Through Berm

Spill Berms in any size for oil, fuel, and chemical spill containment.

Applications Include:

- Wash-down, storage and secondary containment for aircraft, trucks, tankers, trailers and other equipment in a variety of sizes.
- Containment of chemicals, acids, generators and other power equipment used in-plant or in remote locations.
- Discounts on portable secondary spill containment berms for drums, tanks, trailers, chemical processing equipment and more.
- Foam walls allow trailers or forklifts to roll over berm for easy entry and exit.
- Our volume discounts save you money on quality fabrics, liners and berms. Stock and custom sizes available. Call for prices, **same day shipping information** and custom solutions. Comply with SPCC regulations.





Custom. Combo wall and Drive Thru models now available!

We can customize a berm to meet your specifications.

Spill berms can replace costly concrete berms.

New Drive Thru Berm

(click below for details)

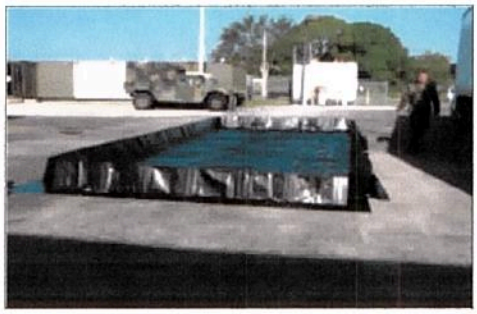
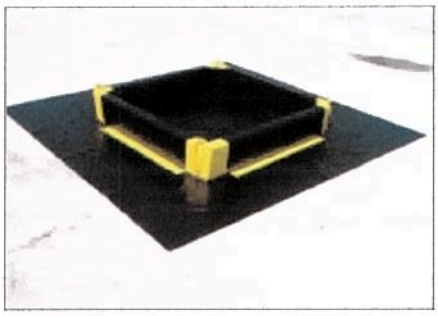

Flexible Spill Containment

Photo Gallery

BERM QUESTION AND ANSWER

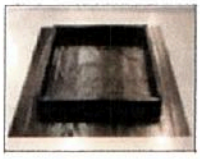
ANY SIZE / ANY SHAPE / MANY MODELS

Manufacturing - direct sales - distributors welcome

Only top quality materials, high standards and the most advanced production tools are used to ensure a superior finished berm at a fair price.

1-800-474-7294




Click above to enlarge.

50% Sulphuric Acid Safe Fuel Safe 50% Hydrochloric Acid Safe

Professional installation and fabric samples available.
Our berms features include the following:

We stand behind our berms

*7 Year Warranty on all workmanship!

XR-5 Berms-10 year fabric warranty for UV and mildew protection.

The longest in the industry.
Free Repair Kit.
Berm repairs available.
Chemical/ Fuel Resistant Track Mats Available.

Many high standards to improve durability and containment!

Foam Wall Spill Berm Model

Flex Wall Spill Berm

Click below for a full chemical and acid reference:
CHEMICAL RESISTANCE GUIDE

HIGH PERFORMANCE XR-5® 8130 REINFORCED GEOMEMBRANE

30 mil XR 5 Fabric from Seaman's Corp.
Don't accept substitutes.
You can feel the difference.
Grade A fabric only. No seconds.

Other fabric choices available:
COOLGUARD, STYLE 8130 XR, 8228 ORLTA, and More!

Drive Thru Spill Containment Berm

Collapsible Wall Spill Berm Model

Stake Wall Model Spill Berm Compact Spill Berm

Please call for your containment needs and current low pricing at 1-800-474-7294

(AFTER HOURS)
1-800-472-3392

Also available:

We stock many standard sizes and will custom make any size spill containment berms or pop-up pool to meet your spill containment or drum storage requirements.

Flexible Spill Containment Berms

* Warranty does not cover abuse or shipping cost. call for details

XR-5 8130 PHYSICAL PROPERTIES

8130 XR-5* : Property	Test Method	Requirement *
1. Thickness	ASTM D-751	30 mils minimum (8130) 40 mils nominal (8138)
2. Weight	ASTM D-751	30.0 ± 2 oz./sq. yd. (8130) 38.0 ± 2 oz./sq. yd. (8138)
3. Tear Strength	ASTM D-751 Tongue Tear (8″ X 10″ sample)	125 lbs./125 lbs.* (min.)
4. Breaking Yield Strength	ASTM D-751 Grab Tensile	475 lbs./425 lbs. (min.)
5. Low Temperature	ASTM D-2136 4 hrs. — 1/8″ mandrel	−30°F. No cracking
6. Dimensional Stability (each direction)	ASTM D-1204 212°F. – 1 hr.	2% max.
7. Hydrostatic Resistance	ASTM D-751 Method A	500 psi (min.)
8. Blocking Resistance 180°F.	ASTM D-751	#2 Rating max.
9. Adhesion—Ply. lbs./in. of width	ASTM D-413 2″ per min.	9 lbs./in. (min.) or film tearing bond
10. Adhesion—heat sealed seam lbs./in. of width	ASTM D-751	10 lbs./in. (min.)
11. Dead Load Seam shear strength	(Mil-T-52983 E Modified Para. 4.5.2.19 2″ overlap seam, 4 hours)	Must withstand 210 lbs./in. @ 70°F. 105 lbs./in. @ 160°F.
12. Bonded Seam Strength	ASTM D-751, seam strength as modified by NSF 54	320 lb. (min.)
13. Abrasion Resistance (Taber Method)	Method 5306 Fed. Std. 191a H-18 Wheel 1000 gm. load	2000 cycles (min.) before fabric exposure 50 mg./100 cycles max. wt. loss
14. Weathering Resistance	Carbon-Arc Atlas Weather-o-meter	8,000 hrs. (min.) No appreciable changes or stiffening or cracking of coating
15. Water Absorption	ASTM D-471, Section 12 7 days	5% max. @ 70°F. 12% max. @212°F.
16. Wicking	Shelter-Rite procedure	1/8″ (max.)
17. Puncture Resistance	ASTM D-751 Ball Tip FTMS 101C Method 2065	650 lbs. (min.) 800 lbs. (typ.) 140 lbs. (typ.)
18. Coefficient of Thermal Expansion/Contraction	ASTM E-228	8 X 10 -6 in/in °F. (max.)

* As Produced

XR-5 Chemical/Environmental Resistance Guide

PART B-1: XR-5® FLUID RESISTANCE GUIDELINES

The data below is the result of laboratory tests and is intended to serve only as a guide. No performance warranty is intended or implied. The degree of chemical attack on any material is governed by the conditions under which it is exposed. Exposure time, temperature, and size of the area of exposure usually varies considerably in application, therefore, this table is given and accepted at the user's risk. Confirmation of the validity and suitability in specific cases should be obtained.

When considering XR-5 for specific applications, it is suggested that a sample be tested in actual service before specification. Where impractical, tests should be devised which simulate actual service conditions as closely as possible.

EXPOSURE	RATING
AFFF	A
Acetic Acid (5%)	B
Acetic Acid (50%)	C
Ammonium Phosphate	T
Ammonium Sulfate	T
Antifreeze (ethylene glycol)	A
Animal Oil	A
Aqua Regia	X
ASTM Fuel A (100% Iso-octane)	A
ASTM Oil #2 (Flash pt. 240°C)	A
ASTM Oil #3	A
Benzene	X
Calcium Chloride Solutions	T
Calcium Hydroxide	T
20% Chlorine Solution	A
Clorox	A
Conc. Ammonium Hydroxide	A
Corn Oil	A
Crude Oil	A
Diesel Fuel	A
Ethanol	A
Ethyl Acetate	C
Ethyl Alcohol	A
Fertilizer Solution	A
#2 Fuel Oil	A
#6 Fuel Oil	A
Furfural	X
Gasoline	B
Glycerin	A
Hydraulic Fluid	A
Hydrocarbon Type II (40% Aromatic)	C
Hydrochloric Acid (50%)	A
Hydrofluoric Acid (5%)	A
Hydrofluoric Acid (50%)	A
Hydrofluosilicic Acid (30%)	A
Isopropyl Alcohol	T
Ivory Soap	A
Jet A	A
JP-4 Jet Fuel	A

EXPOSURE	RATING
JP-4 Jet Fuel	A
JP-5 Jet Fuel	A
JP-8 Jet Fuel	A
Kerosene	A
Magnesium Chloride	T
Magnesium Hydroxide	T
Methanol	A
Methyl Alcohol	A
Methyl Ethyl Ketone	X
Mineral Spirits	A
Naptha	A
Nitric Acid (5%)	B
Nitric Acid (50%)	C
Perchloroethylene	C
Phenol	X
Phenol Formaldehyde	B
Phosphoric Acid (50%)	A
Phosphoric Acid (100%)	C
Phthalate Plasticizer	C
Potassium Chloride	T
Potassium Sulphate	T
Raw Linseed Oil	A
SAE-30 Oil	A
Salt Water (25%)	B
Sea Water	A
Sodium Acetate Solutions	T
Sodium Bisulfite Solution	T
Sodium Hydroxide (60%)	A
Sodium Phosphate	T
Sulphuric Acid (50%)	A
50% Tanic Acid	A
Toluene	C
Transformer Oil	A
Turpentine	A
Urea Formaldehyde	A
UAN	A
Vegetable Oil	A
Water (200°F.)	A
Xylene	X
Zinc Chloride	T

Ratings are based on visual and physical examination of samples after removal from the test chemical after the samples of Black XR-5 were immersed for 28 days at room temperature. Results represent ability of material to retain its performance properties when in contact with the indicated chemical.

RATING KEY:
A—Fluid has little or no effect
B—Fluid has minor to moderate effect
C—Fuild has severe effect
T—No data-likely to be acceptable
X—No data-not likely to be acceptable